1967

A study of the Belmond, Iowa High School male graduates, 1956-1961

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A STUDY OF THE BELMOND, IOWA HIGH SCHOOL MALE GRADUATES, 1956-1961

by

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A Thesis Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
MASTER OF SCIENCE

Major Subject: Industrial Education

Approved:

Signatures have been redacted for privacy

Iowa State University
Ames, Iowa

1967

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INTRODUCTION

The Belmond industrial arts department has added several units to its curriculum during the past five years. The main purpose of this study was to find out, from the graduates, if, in their opinion, these courses would have benefitted them had they been offered when they were in school.

The City of Belmond

Belmond, Iowa, is a city of about 2,500 people. It is located about 40 miles southeast of Mason City and about 45 miles northwest of Webster City. Highway 69 passes through the west edge of the city. The first settlers arrived in Belmond in 1853. The first plat in Belmond was filed on land on the west side of the Iowa River which parallels Highway 69. Since that time, however, most of the new development has taken place on the east side of the river.

The city of Belmond was incorporated in 1881. Its growth through the years has been principally due to its location in the center of a rich agricultural region. Belmond serves a trade area of approximately 400 square miles, and the major industries include a soybean plant, a seed corn plant, and a fertilizer plant.

Services available include six churches, a public library, a newspaper, a modern hospital, a central park, a swimming pool, and a student center. The late Chester P. Luick was especially instrumental in

developing some of the recent projects. He donated $300,000 to the new school, $100,000 to the new hospital, $95,000 to the swimming pool, and $30,000 to the Methodist Church.

History of the Belmond Schools

The Belmond School System has changed very much since the first building was erected in 1857. At that time there was also a subscription school which was held in the granary. Several small buildings, including the "little red school house" which burned, were used for schools until 1895, when the first brick school was built. In 1916 it was torn down and the present Main Building was built. It housed grades kindergarten through twelfth grade, and added such courses as domestic science, manual training, boys' and girls' club work, and stressed athletic competition. A gymnasium was added in 1942. Ramsay Elementary was built in 1952, and the grades kindergarten through third were moved to the new building from Main Building. In July, 1954, Goodell School District was reorganized with Belmond. This resulted in the construction of a new elementary building in Goodell in 1956. In that same year a new industrial arts, vocational agriculture, and bus barn were built under the same roof at a new site in the east part of Belmond. A new high school housing grades nine through twelve was also built on this site in 1961. The Rowan School District reorganized with Belmond in 1962 making the present Belmond Community School District.

In the seventy-nine years since the independent school was

organized, there have been only 17 different superintendents. These have been: J. G. Grundy, W. H. Bowser, E. A. Pierce, Angus McDonald, Wyant (initials unknown), F. C. Popham, Samuel Neven, Paul Scarbro, Filer Guthrie, H. J. Williams, Hazel V. Thomas, A. M. Stones, Theodore Johnson, and Donald A. Faris. In the fall of 1967 Superintendent Donald A. Faris starts his twenty-first year of service to Belmond.

Purpose of the Study

In 1962 the author moved to Belmond to assume the duties of industrial arts instructor. Prior to that time industrial arts was offered only to grades nine and twelve. The principal activities had been woodworking and some drafting. In 1962 the eighth grade exploratory course was added as well as high school units of sheetmetal and motor rewind. In 1963 benchmetal was added. In 1964 an eleventh grade industrial arts course was added, and included 1) welding, 2) basic house wiring, 3) metal spinning, and 4) power mechanics. In 1965 electronics and an additional nine weeks of drafting were added to the twelfth grade course. These additions have been made mostly upon the teacher's judgment.

The main purpose of this study was to find out from the graduates of 1956 through 1961 if in their opinion industrial arts courses added after their graduation as well as other possible additions would have been of value to them. A second purpose was to provide general information about the graduates for counseling purposes. The more specific objectives were:

1. To determine the type of occupation chosen by the graduates.

2. To determine the type of post high school education pursued.

3. To determine the amount of education acquired.

4. To determine by opinion which high school courses were useful.

5. To determine by opinion if there is a need for the addition of more units of training in industrial arts.

6. To determine by opinion why students do or do not enroll in industrial arts.

REVIEW OF LITERATURE

Many follow-up studies of high school graduates have been made. No two studies are identical, but selected data from many of them can be compared. Several such studies were reviewed and a small number of these were selected to be used in adopting techniques and for getting later comparisons. The following paragraphs reveal a short summary of each study.

The purpose of Bjorkquist's (1) study was to determine the curricular needs of the industrial arts students as reported by Iowa senior high school teachers who were teaching industrial arts full time.

The data used in his study were obtained by means of a questionnaire which was sent to all the senior high school teachers in Iowa who were teaching industrial arts full time.

A total of 174 questionnaires were mailed of which 141 or 81 percent were returned.

He found that the median years of teaching experience was ten. Some of the needs of high school industrial arts students were consistently rated as more important than other needs suggested in the questionnaire. The more important needs were 1) recognition and appreciation of good workmanship, 2) resourcefulness in meeting practical situations, 3) the habit of an orderly and complete performance of any task, 4) a feeling of pride in the ability to do useful things, and 5) desirable attitudes and practices with respect to health and safety.

Brown (2) used the personal interview method to collect data from the Somerset Area High School graduates from 1959-1963. A total of 89

of the 175 graduates were interviewed.

It was found that 65 percent of the graduates educated in auto mechanics shop were working in that field or a related field, and 68 percent of the graduates educated in machine shop were working in the field or a related field for which they were educated.

It was found that the graduate with the highest I.Q. was not in the highest paid position, but was working in a field related to the one for which he was educated; and the graduate with the lowest I.Q. was not in the lowest paid position, but was not working in the field for which he was educated. It appeared that the I.Q. had little bearing on the type of employment obtained.

It appeared that the graduates accepted the first position offered to them following graduation, as only 39 percent were working in fields related to their education.

Buck (3) evaluated the Jefferson Community High School. Through the use of a questionnaire, the respondents rated various courses as to "great value", "some value", "little value", and "no value". The point system was used assigning four points to "great value", three points to "some value", two points to "little value", and one point to "no value". The mean of each course was tabulated and ranked from highest to lowest. English, typing, American government and sociology had the highest means, and home economics, Spanish, and German had the lowest means.

The purpose of Chadwick's (4) research was 1) to determine if the present program was meeting the needs and interests of the graduates, 2) to determine if there was a need for some additional courses, and

3) to determine why or why not students enroll in industrial education.

Information was collected by the use of a questionnaire which was sent to male graduates of 1946-1949. Of the 362 questionnaires sent, 64 percent were returned. Of these 49 percent of the industrial education graduates reported industrial education as an aid in securing employment. Fifty-three percent of the non-industrial education graduates now feel industrial education would have been of some benefit to them. The industrial education graduates placed the most value on woodwork, metalwork, and mechanical drawing as related to their present occupation. Printing was reported as of "no value" by 58 percent.

Gardner (5) did a follow-up of Saint Leo's High School, Minot, North Dakota. Her purpose was to determine the post high school experiences and the present status of the graduates. She used the questionnaire method. The study covered the home life, higher education, employment status, social status, and the leisure time activities.

The subjects of the study were the graduates of the 1949-1957 classes. Of the 349 graduates, 257 were located and only 123 responded.

There were indications that the graduates preferred to be entertained by others than to entertain themselves.

Reading, motion pictures, and television are the three most popular recreational activities. Reading far surpassed the other two types.

Those who did not pursue higher education after graduation were the most avid magazine readers among the women; while those with five or six years of college education read the least. The greatest magazine readers among the men were those who had completed four years of college. Those

with six years of college did no reading of magazines.

The greatest percent of the men (58 percent) attended movies on a weekly basis. The greatest percent of the women attended yearly or less. More women than men attended the B-rated movies. "Bridge on the River Kuai" was listed as the best liked movie.

Television programs were the third choice of entertainment. The western shows were the most popular type of TV programs, with "Wagon Train" and "Gunsmoke" mentioned most frequently.

Of all the respondents, 123 or 74.8 percent, attended some form of higher education. More men (74 percent) than women (64.5 percent) entered college. The men also continued longer than the women. The mean number of years of attendance for the men was 3.33 and for the women was 2.36.

The high school was not a factor in training or for locating a position of work for the graduates.

All but two of the marriages had been performed before a Catholic priest.

Gatch (6) did an evaluation of the machine shop program in the Newton Community High School. His objectives were 1) to discover the mobility and the employment patterns of the former students, 2) to determine the amount of schooling taken after leaving high school, 3) to learn why students took machine shop in the high school and the value they now place upon the course after eight to ten years out of school, 4) to determine the number of former students using the shop training in earning their livelihood, and 5) to collect ideas and suggestions

that might help to develop a better machine shop program.

The information was collected by a questionnaire sent to 160 former students of the class of 1951-1954. He had a 69 percent return.

The investigation showed that 64 percent of the former students secured employment and remained within the immediate area. Fifty-eight percent received schooling past high school even though 79 percent of the group were from the lower one-half of their class. Twenty-one percent of the former students were using their machine shop training quite directly in earning a living; an additional 48 percent were using their training in varying degrees in their occupations. There seemed to be a tendency to request inclusion of more advanced skills and technical information in the course.

Hanson (7) surveyed the males of the Clarion High School, Clarion, Iowa. It is a neighboring town about fifteen miles from Belmond. The schools are comparable in size. The survey was in the form of a questionnaire sent to 290 graduates from the years 1946 through 1955. Its purposes were 1) to determine if there were implications for a revision of the industrial arts curriculum, 2) to discover whether the needs of the graduates of industrial arts have been met, and 3) to determine the principal weaknesses of the high school industrial arts courses. He found that 66 percent of the non-industrial arts students reported that industrial arts would have benefited them. Twelve non-industrial arts students reported following the college preparatory course as the reason for not taking industrial arts. One hundred forty-eight industrial arts graduates reported "general usefulness" to be the reason why they took

industrial arts, 43 reported "leisure time", 42 reported "occupational information", 29 reported "advice of parents", and 26 reported "pre-vocational". Industrial arts graduates rated welding and machine shop highest insofar as being of much value to them in their present occupation. It was indicated by 74 industrial arts graduates that the principal weakness of their industrial arts units was failure of such courses to show probable relationship of the program to future life's work. Sixty-six percent reported that the type of industrial arts program, which would be of most benefit to them, would be more school time devoted to a few important industrial arts courses.

Husted (9) surveyed the Garrison High School. He sent out 154 questionnaires. When they were returned he grouped them into seven occupational categories. He also had each occupational group evaluate the subjects and activities that they had taken or would like to have taken in high school. The questionnaire was in the form of a rating scale from one to five. It included "great value", "some value", "no value", "information or recreation", and "help in present job". He found that 80.4 percent either worked at home or in the same city. Seven percent worked in a different city that was not more than ten miles away. Thirteen percent work in a different city that is no more than fifty miles away from Garrison. Two percent were more than 100 miles away but still in the state. Ten percent moved out of the state. He listed two problems he had in students not completing or even filling out the report. These problems were 1) students who were not familiar with courses listed, and 2) students who did not like the person sending

out the questionnaire. Courses and activities of "great value" were English I, Typing I, English II, American government, economics, bookkeeping, and driver's education. Courses of "no value" were English literature, American literature, vocal music, and world history.

The purpose of Takeuchi's (13) study was to determine 1) the number of former students of McLane High School employed directly in the automotive trade, 2) those employed in related automotive trades, and 3) those employed in other occupations. Eighty-eight questionnaires were mailed and 67 returned for a 76 percent return. Eighteen, or 27.0 percent, performed operations in the automotive and related trades. Eight of the total respondents indicated their first employment after leaving school was in the service station. The automotive service area employed eleven graduates. "Brake" specialist was indicated by three, or 16.7 percent, while "tune-up" was indicated by two, or 11.1 percent. Three, or 16.7 percent, were classified as apprentices, three were journeymen, and one indicated being a foreman; while five checked laborer.

Parents were considered most influential in helping the students select an occupation. "Work experience" was checked second.

METHOD OF PROCEDURE

Introduction

In the summer and fall of 1966 a preliminary questionnaire was prepared. Dittoed copies were given to Mr. Torgerson, the high school guidance counselor, and Mr. Doeringsfeld, the high school principal, for evaluation. Their suggestions were incorporated into a revised questionnaire which was dittoed and twelve of them were sent to the former graduates of the Belmond High School. The questionnaire was designed so that the respondents could fill in comments if there were questions that they could not understand. Ten of these questionnaires were returned. The final instrument was then designed using recommendations from the administration and the original ten respondents.

Type of Instrument

The first sixteen questions of the instrument were of a general information type regarding the following: 1) marital status, 2) home ownership, 3) distance graduates lived from Belmond, 4) present occupation, 5) future occupational goals, 6) amount of employment, 7) personal influence in job selection, 8) work related to high school choice, 9) number of jobs held since graduation, 10) ways of finding out about first job, 11) reasons for not furthering education beyond high school, 12) amount of trade or business school obtained, 13) amount of college obtained, 14) reasons for dropping out of school, 15) reasons for not

taking industrial arts, and 16) requirements of industrial arts for graduation.

Eleven industrial arts courses were listed. The respondents were asked whether or not they would have taken these courses in high school, had they been offered.

Two questions were asked about industrial arts. The first one asked why the graduates took industrial arts. The second one asked what was the principal weakness of the high school industrial arts program. The remainder sixty-eight questions dealt primarily with rating the high school courses. Each course was rated twice; first for its job value, and second for its general usefulness. Each one was also subdivided into five categories: 1) "of no use", 2) "of little use", 3) "useful", 4) "very useful", 5) "extremely useful". The respondents were informed of the courses they had taken. Each course was checked, and they were asked to rate only those courses checked. This information was obtained from the permanent records.

The most recent year that seemed reasonable to use in the study was 1961. That allowed at least six years for the graduates to establish themselves. By going back another six years, records of 249 males could be obtained. The span of years then included 1956 through 1961. Of the 249 male folders, 68 had to be rejected because, by definition, the study only included male graduates of Belmond High School. Those 68 males who were rejected had dropped out of school, transferred into the school system, or had left and enrolled in another high school. One student was deceased. This left a remainder of 181 eligible graduates.

The questionnaire was taken to a commercial printer in Belmond. It was reduced in size and 500 copies were made. The cover letter was also printed by a commercial printer using the school's letterhead stationery. A mailing list was compiled using the graduate's father's names and addresses from the permanent records.

During the first week in April, a questionnaire was sent out to all the graduates along with a cover letter explaining the purpose of the study and asking for their cooperation.

Of the 181 questionnaires sent out, 159 returned representing 87.8 percent of all the eligible graduates. Of the original 181 letters sent out, 28 came back with "address unknown". After further investigation by telephone and inquiry, the 28 "unknowns" were then sent out again. Of these only four returned "unknown". More telephone calls were made, including one long distance call. The addresses were then found, and the last four questionnaires were sent out. The questionnaire is included in the appendix.

The questionnaire and cover letter, on school stationery, were mailed to the male graduates. Also enclosed with the questionnaire and cover letter was a stamped envelope addressed to the author.

The graduates' names were coded with a three digit number, and a code number was placed on each questionnaire. A sheet approximately four feet by six feet was prepared with all the code numbers on the left in one-fourth inch squares. As the questionnaires were returned, a check mark on the sheet was made so that a second mailing list for post cards could be compiled. For non-respondents the city's newspaper was

contacted, and a short article describing the project and a plea to return the questionnaires was published.

A further follow-up consisted of a second questionnaire which brought in more responses.

Table 1 indicates the responses by year of graduation. The class of 1960 had the highest percent return with 36, or 97.3 percent reporting. The class of 1961 was second with 32, or 96.9 percent reporting.

Table 1. Questionnaire responses of graduates by year of graduation

Year of graduation	Total males	Eligible questionnaires sent	Questionnaires returned	Percent response
1956	36	25	21	84.0
1957	38	32	29	90.4
1958	49	29	23	79.3
1959	36	25	18	72.0
1960	48	37	36	97.3
1961	42	33	32	96.9
Total number	249	181	159	87.8

Treatment of the Data

The return questionnaires were coded and copied on a 4 foot by 6 foot sheet of paper. Comments were written beside each entry. The coded numbers were transferred to smaller sheets which were better adapted for key punching. The Iowa State University Statistical Laboratory Computation Center recorded the information for each respondent on two IBM cards. The information was processed by computers. Print out sheets were interpreted, and the information transferred to tables.

FINDINGS

Introduction

The findings in this chapter have been divided into five parts. Tables 1 through 10 represent the general information about the graduates. Tables 11 through 19 report education and job selection. Tables 20 through 24 report attitudes about industrial arts. Opinions concerning future industrial arts courses were reported in Tables 25 through 36. An evaluation of the high school courses was reported in Table 37, Table 38, Table 39, and Table 40.

General Information

One hundred twenty-one, or 76.1 percent, of the male graduates of Belmond are married as reported in Table 2. The class of 1961 reported 11 males who were single, while the class of 1956 reported only 3 males who are still single.

One of the main objectives of the study was to determine the type of occupation chosen by the graduates. Of the 159 graduates who had responded, 43, or 27.0 percent, were classified as "professionals". As reported in Table 3, fifteen, or 9.4 percent, of the graduates were classified in the "clerical and sales" fields. "Service" occupations had only 4 or 2.5 percent. "Agriculture" was second highest with 24 or 15.1 percent. Fifteen, or 9.4 percent, of the graduates reported their occupation to be "skilled". The "semi-skilled" group contained 14, or

Table 2. Present marital status of male high school graduates by year of graduation

Year of graduation	Married No.	Single No.	Total No.
1956	18	3	21
1957	25	4	29
1958	21	2	23
1959	14	4	18
1960	22	14	36
1961	21	11	32
Total	121	38	159
Percent	76.1	23.9	100.0

8.8 percent, of the graduates. The second smallest group was the "unskilled" group comprising five or 3.2 percent. Eighteen, or 11.3 percent, of the graduates are still furthering their education and are classified as "students". The "armed forces" comprised 12, or 7.6 percent of the graduates. The "professional" group was the largest, and was almost twice the size of the "agriculture" group.

Data presented in Table 4 indicated that the greatest percentage of the graduates live in an apartment. This included 48, or 30.2 percent. Forty-seven, or 29.6 percent, reported living in a rented home. Many of these were farmers who live on a rented farm. Thirteen, or 8.2 percent, still live with their parents. Of the 159 graduates 26, or 22.6 percent,

Table 3. Present occupation of male graduates by year of graduation

Occupational classification	1956 No.	1957 No.	1958 No.	1959 No.	1960 No.	1961 No.	Total No.	Total Pct.
Professional	5	8	10	2	11	7	43	27.0
Clerical, sales	3	7	1	0	4	0	15	9.4
Service	1	1	0	0	1	1	4	2.5
Agriculture	4	5	5	5	2	3	24	15.1
Skilled	2	3	1	3	1	5	15	9.4
Semi-skilled	2	2	2	4	1	3	14	8.8
Unskilled	1	0	1	0	3	0	5	3.2
Student	2	0	1	2	4	9	18	11.3
Armed forces	1	0	2	2	4	3	12	7.6
Other	0	3	0	0	5	1	9	5.7
Total number	21	29	23	18	36	32	159	100.0

Table 4. Household ownership of male graduates

	Year of graduation							
	1956 No.	1957 No.	1958 No.	1959 No.	1960 No.	1961 No.	Total No.	Total Pct.
Yes	5	11	10	5	4	1	36	22.6
No (live in apt.)	4	6	5	4	14	15	48	30.2
No (live in rented home)	6	10	6	6	8	11	47	29.6
No (live with parents)	2	0	1	1	6	3	13	8.2
Does not apply	1	0	0	0	1	1	3	1.9
Other	3	2	1	2	3	1	12	7.5
Total number	21	29	23	18	36	32	159	100.0

own their own home.

A large number of the Belmond graduates still live within 100 to 200 miles of Belmond. Table 5 indicates this figure to be 113 or 71.1 percent. Thirty-three, or 20.8 percent, still live within zero to five miles from Belmond, while 10 or 6.3 percent live within five to ten miles away. Living within a radius of ten to twenty miles away was reported by 4 or 2.5 percent. Thirty, or 18.9 percent, live within forty to one hundred miles away. Those living two hundred or more miles away included 29 or 18.2 percent.

The data on Table 6 shows the distribution of the graduates by occupational group. A large percent of the "professional" people move out of Belmond. Eight, or 18.6 percent, live between one hundred and two hundred miles away, while 14 or 32.4 percent live two hundred or more miles away. Only three or 7.1 percent still live within five miles of Belmond.

Of the entire occupational group the "professionals" seem to leave Belmond most frequently. Only three, or 7.1 percent, now live within the immediate city. The "agriculture" people seem to live in or near Belmond, with 18, or 74.9 living within ten miles.

Another specific objective was to determine the amount of education acquired. Data in Table 7 indicates that 68, or 42.8 percent, of the graduates acquired some sort of trade-technical, on-the-job or business schooling after graduation. Fifteen, or 9.4 percent, of the graduates received less than one-half year of training. One year of such training was reported by 16, or 10.1 percent. Seven, or 4.4 percent,

Table 5. Distance from Belmond graduates live by year of graduation

Year of graduation	Miles 0-5		5-10		10-20		20-40		40-100		100-200		200 or more		Military		In school		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1956	3	14.3	3	14.3	0	0	3	14.3	5	23.7	2	9.5	3	14.3	1	4.8	1	4.8	21	100.0
1957	11	37.9	1	3.5	1	3.5	2	6.9	7	24.1	4	13.8	3	10.3	0	0	0	0	29	100.0
1958	6	26.1	1	4.3	0	0	3	13.0	4	17.5	2	8.7	5	21.7	2	8.7	0	0	23	100.0
1959	3	16.7	4	22.2	1	5.6	2	11.1	1	5.6	0	0	5	27.7	2	11.1	0	0	18	100.0
1960	6	16.7	1	2.8	0	0	3	8.3	8	22.2	6	16.7	6	16.7	5	13.8	1	2.8	36	100.0
1961	4	12.5	0	0	2	6.3	2	6.3	5	15.6	7	21.8	7	21.8	3	9.4	2	6.3	32	100.0
Total number	33		10		4		15		30		21		29		13		4		159	
Percent	20.8		6.3		2.5		9.4		18.9		13.2		18.2		8.2		2.5		100.0	
Cumulative number	33		43		47		62		92		113		142		155		159			
Cumulative percent	20.8		27.1		29.6		39.0		57.9		71.1		89.3		97.5		100.0			

Table 6. Distance from Belmond graduates live by occupational group

Occupational group	Miles 0-5 No.	0-5 Pct.	5-10 No.	5-10 Pct.	10-20 No.	10-20 Pct.	20-40 No.	20-40 Pct.	40-100 No.	40-100 Pct.
Professional	3	7.0	0	0	1	2.3	4	9.5	12	27.9
Clerical, sales	4	26.7	0	0	0	0	1	6.7	5	33.3
Service	3	75.0	0	0	0	0	0	0	1	25.0
Agriculture	11	45.8	7	29.1	2	8.3	1	4.2	1	4.2
Skilled	5	33.3	1	6.8	0	0	2	13.3	3	20.0
Semi-skilled	3	21.4	1	7.1	1	7.1	3	21.5	2	14.3
Unskilled	2	40.0	0	0	0	0	1	20.0	1	20.0
Student	1	5.5	0	0	0	0	2	11.1	4	22.2
Armed forces	0	0	0	0	0	0	0	0	0	0
Other	1	11.1	1	11.1	0	0	1	11.1	1	11.1
Total	33		10		4		15		30	

Occupational group	Miles 100-200 No.	Pct.	200 or more No.	Pct.	Military No.	Pct.	In School No.	Pct.	Total No.	Pct.
Professional	8	18.6	14	32.4	1	2.3	0	0	43	100.0
Clerical, sales	3	20.0	2	13.3	0	0	0	0	15	100.0
Service	0	0	0	0	0	0	0	0	4	100.0
Agriculture	1	4.2	1	4.2	0	0	0	0	24	100.0
Skilled	2	13.3	2	13.3	0	0	0	0	15	100.0
Semi-skilled	2	14.3	2	14.3	0	0	0	0	14	100.0
Unskilled	1	20.0	0	0	0	0	0	0	5	100.0
Student	2	11.1	5	27.9	0	0	4	22.2	18	100.0
Armed forces	0	0	0	0	12	100.0	0	0	12	100.0
Other	2	22.2	3	33.4	0	0	0	0	9	100.0
Total	21		29		13		4		159	

Table 7. Amount of trade technical, on-the-job training or business (school) completed since graduation, by year of graduation

Year of graduation	Less than ½ yr. No.	1 yr. No.	1½ yrs. No.	2 yrs. No.	Other No.	Does not apply No.	Total No.
1956	1	0	1	3	4	12	21
1957	3	5	1	4	1	15	29
1958	2	0	3	1	2	15	23
1959	2	1	0	2	3	10	18
1960	4	4	1	4	1	22	36
1961	3	6	1	3	2	17	32
Total number	15	16	7	17	13	91	159
Percent	9.4	10.1	4.4	10.7	8.2	57.2	100.0
Cumulative number	15	31	38	55	68	159	
Cumulative percent	9.4	19.5	23.9	34.6	42.8	100.0	

reported that they had one and one-half years of training; while seventeen, or 10.7 percent, reported 2 years of training.

Data in Table 8 indicates the increase in training as the class rank went from upper to lower. In the "does not apply" column the percentage value decreases as the class rank varies from upper to lower. This indicates that the students in the upper ranks are going to college or doing something other than going to a technical or business school.

Table 8. Amount of trade-technical on-the-job training or business schooling completed since graduation by class rank

Class rank	Less than ½ year		1 year		1½ years		2 years		Other		Does not apply		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	1	9.1	0	0	1	9.1	1	9.1	0	0	8	72.7	11	100.0
10-20	0	0	0	0	0	0	1	10.0	1	10.0	8	80.0	10	100.0
20-30	1	5.9	1	5.9	0	0	2	11.7	0	0	13	76.5	17	100.0
30-40	1	6.7	2	13.3	1	6.7	1	6.7	2	13.3	8	53.3	15	100.0
40-50	0	0	1	8.3	0	0	0	0	1	8.3	10	83.4	12	100.0
50-60	1	7.1	0	0	0	0	4	28.6	1	7.1	8	57.2	14	100.0
60-70	2	9.1	1	4.5	1	4.5	3	13.7	2	9.1	13	59.1	22	100.0
70-80	1	5.9	3	17.6	2	11.8	4	23.5	0	0	7	41.2	17	100.0
80-90	4	19.0	4	19.0	2	9.5	0	0	3	14.3	8	38.2	21	100.0
90-100	4	20.0	4	20.0	0	0	1	5.0	3	15.0	8	40.0	20	100.0
Total	15		16		7		17		13		91		159	

The amount of trade technical, on-the-job training or business school was broken down by class rank. Three students in the upper 0-10 class rank have gone to schools other than college. Two students in the 10-20 class rank range have also furthered their education in some way other than college. Almost one-half of the graduates in the 30-40 range have furthered their education by means other than college. Two, or 16.6 percent, in the 40-50 range have had no further training.

Four, or 28.6 percent, of the graduates in the 50-60 range have completed two years of training, while one, or 7.1 percent, had completed less than one-half year. Other was indicated by one or 7.1 percent. In the lower 60-70 group two, or 9.1 percent, have completed less than one-half year. Three, or 13.7 percent, have completed two years.

In the lower 70-80 group 4, or 23.5 percent, indicated they had two years of training. One, or 5.9 percent, had less than one-half year of training.

Data presented in Table 9 indicates that 68.5 percent of the 159 graduated have pursued some type of college education. Seven, or 4.4 percent, have their master's degree. Forty-five, or 28.3 percent, of the graduates have their bachelor's degree, while 9, or 5.7 percent, have completed three years of college. "Two years of college" was reported by 12 or 7.5 percent. Fourteen, or 8.8 percent, of the graduates reported "one year" of college, while 3, or 1.9 percent, reported "one-half year". Twelve, or 7.5 percent reported "less than one-half year" of college.

The class of 1961 reported 14 of its 32 male graduates had a

Table 9. Amount of college education completed since graduation by year of graduation

Year of graduation	Less than 1/2 year No.	1/2 yr. No.	1 yr. No.	2 yrs. No.	3 yrs. No.	Bachelors degree No.	Masters degree No.	Other No.	Does not apply No.	Total No.
1956	2	1	0	3	0	5	1	2	7	21
1957	4	1	2	3	1	5	3	0	10	29
1958	2	0	2	0	1	5	3	1	9	23
1959	2	1	4	2	0	1	0	2	6	18
1960	1	0	3	1	4	15	0	1	11	36
1961	1	0	3	3	3	14	0	1	7	32
Total number	12	3	14	12	9	45	7	7	50	159
percent	7.5	1.9	8.8	7.5	5.7	28.3	4.4	4.4	31.5	100.0
Cumulative percent	7.5	9.5	18.2	25.7	31.4	59.7	64.1	68.5	100.0	

bachelor's degree, while the class of 1959 reported only one of its eighteen male graduates had his bachelor's degree. Five each reported having their bachelor's degree in the class of 1956, 1957, and 1958 respectively.

As the class rank lowered, the number of graduates dropping out of college increased as shown in Table 10. The "less than one-half year column" had no responses for the upper half of the class, and a high number of responses in the lower class ranks. The 20-30 group had the highest percentage with bachelor's degrees (70.6 percent). The 70-80 group was the only group with no bachelor's degree. The highest percent (18.2 percent) of master's degrees was reported in the 0-10 group. The 20-30 group was second (17.6 percent) and the 50-60 group was third (7.1 percent).

The "does not apply" included those graduates who did not go on to college or who enrolled in a school other than college.

Education and Job Selection

Reasons for the graduates dropping out of college or technical school were indicated in Table 11. A total of 42 graduates gave a reason for dropping out of a college or a technical school. "Lack of interest or motivation" had the greatest number of responses totaling 15, or 35.7 percent. "Lack of money" was second with 14, or 33.3 percent. "Other" was reported by 10, or 23.8 percent. Only two reported "poor grades in college" as being a reason for dropping out of school. These two were

Table 10. Amount of college education completed since graduation by class rank

Class rank	Less than 1/2 year		1/2 year		1 year		2 years		3 years	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	0	0	0	0	0	0	2	18.2	0	0
10-20	0	0	0	0	0	0	1	10.0	0	0
20-30	0	0	0	0	0	0	1	5.9	1	5.9
30-40	0	0	0	0	3	20.0	2	13.3	3	20.0
40-50	0	0	0	0	0	0	0	0	2	16.7
50-60	2	14.3	1	7.1	2	14.3	0	0	0	0
60-70	4	18.2	1	4.5	3	13.6	1	4.5	1	4.5
70-80	1	5.9	0	0	2	11.8	4	23.5	2	11.8
80-90	3	14.3	0	0	2	9.5	1	4.8	0	0
90-100	2	10.0	1	5.0	2	10.0	0	0	0	0
Total	12		3		14		12		9	

Class rank	Bachelor's degree		Master's degree		Other		Does not apply		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	5	45.4	2	18.2	1	9.1	1	9.1	11	100.0
10-20	7	70.0	0	0	1	10.0	1	10.0	10	100.0
20-30	12	70.6	3	17.6	0	0	0	0	17	100.0
30-40	5	33.3	0	0	1	6.7	1	6.7	15	100.0
40-50	7	58.3	0	0	1	8.3	2	16.7	12	100.0
50-60	3	21.4	1	7.1	0	0	5	35.8	14	100.0
60-70	3	13.6	1	4.5	0	0	8	36.6	22	100.0
70-80	0	0	0	0	0	0	8	47.0	17	100.0
80-90	1	4.8	0	0	1	4.8	13	61.8	21	100.0
90-100	2	10.0	0	0	2	10.0	11	55.0	20	100.0
Total	45		7		7		50		159	

Table 11. Reasons for dropping out of college or technical school by class rank

Class rank	Poor grades in college No.	Poor high school background No.	Lack of money No.	Sickness No.	Lack of interest or motivation No.	Other No.	Total dropped No.
0-10	0	0	0	0	1	0	1
10-20	1	0	0	0	1	0	2
20-30	1	0	1	0	2	0	4
30-40	0	0	2	0	0	0	2
40-50	0	0	1	0	1	2	4
50-60	0	0	1	0	1	0	2
60-70	0	0	1	0	4	1	6
70-80	0	0	2	0	1	4	7
80-90	0	0	3	0	3	2	8
90-100	0	1	3	0	1	1	6
Total number	2	1	14	0	15	10	42
Percent	4.8	2.4	33.3	0	35.7	23.8	100.0

in the upper 10-20 and the upper 20-30 class rank. One graduate in the lower 90-100 range reported "poor high school background" as being a reason for dropping out of school. "Sickness" was never a reason.

Fifty-two of the 159 graduated did not further their education beyond high school as pointed out in Table 12. Twenty-three, or 44.2 percent, stated that they never planned to further their education. "Lack of money" was stated as a reason for 11, or 21.2 percent, of the graduates who did not continue. Eight, or 15.4 percent, indicated that "marriage" hindered them from going on to school. The class of 1956 had only five graduates who did not, at least, attempt to go on to school; while the class of 1957 had 14 graduates who did not continue. "Received a poor education" was not reported as being a reason for terminating their education.

The amount of time the graduates spent at work was reported in Table 13. One hundred thirty-two, or 83.0 percent, of the graduates are employed full time. "Part time employment" was indicated by five, or 3.1 percent. Four or 2.5 percent reported they had seasonal work. Eighteen or 11.4 percent of the graduates indicated "other" type of work. This included graduate assistantship, military, and peace corps.

Table 14 reported the personal influence in job selection by occupational group. "Myself only" was highest with 75, or 47.2 percent, responding. Second was "friends" with 23, or 14.5 percent, of the total graduates responding. "Parents" was the third highest influence with 21, or 13.2 percent, responding. Most of these graduates were farmers who were farming with their parents. Eighteen, or 11.2 percent, reported

Table 12. Reasons for not furthering education beyond high school by year of graduation

Year of graduation	Never planned to further my education beyond high school No.	Received a poor education No.	Lack of money No.	Got married No.	Other No.	Total No.
1956	4	0	0	1	0	5
1957	7	0	4	2	1	14
1958	5	0	1	2	2	10
1959	2	0	1	3	3	9
1960	3	0	4	0	1	8
1961	2	0	1	0	3	6
Total number	23	0	11	8	10	52
Percent	44.2	0	21.2	15.4	19.2	100.0

Table 13. Amount of time spent at work by year of graduation

Year of graduation	Full time No.	Part time No.	Seasonal No.	Other No.	Total No.
1956	17	1	0	3	21
1957	27	1	0	1	29
1958	22	1	0	0	23
1959	16	0	1	1	18
1960	26	0	2	8	36
1961	24	2	1	5	32
Total number	132	5	4	18	159
Percent	82.0	3.1	2.5	11.4	100.0

Table 14. Personal influence in job selection by occupational group

Occupational group	Friends No.	Teacher No.	Myself only No.	Parents No.	Relatives No.	Other No.	Total No.
Professional	7	10	18	4	1	3	43
Clerical, sales	0	0	11	1	2	1	15
Service	1	0	0	1	1	1	4
Agriculture	2	1	7	8	0	6	24
Skilled	2	1	11	1	0	0	15
Semi-skilled	4	1	6	1	1	1	14
Unskilled	3	0	2	0	0	0	5
Student	1	2	10	3	0	2	18
Armed forces	1	1	4	2	0	4	12
Other	2	0	6	0	1	0	9
Total number	23	16	75	21	6	18	159
Percent	14.5	10.1	47.2	13.2	3.8	11.2	100.0

"other" as being an influence. "Other" included graduates who were drafted, or graduates who had checked more than one column. The lowest influence was "relatives", with 6, or 3.8 percent. "Myself only" ranked highest among all the occupational groups except agriculture where "parents" was ranked the highest by percentage.

Ways the graduates found their first job was shown in Table 15. "Went to employer myself" was the highest ranked method of finding a job with 49, or 30.8 percent, of the graduates reporting. Second was "friends", reporting 22, or 13.8 percent. The "placement bureau" ranked third, reporting 21, or 13.2 percent. Fourth was "parents", reporting 20, or 12.6 percent. "Parents" ranked highest in the agriculture group. "Friends" ranked highest among the service group. "Employment agency" had the highest number in the clerical and unskilled groups. The professional group used the placement bureau most frequently. "Went to employer myself" scored highest in the skilled, semi-skilled, student and other groups.

The number of full time jobs held since high school was reported in Table 16. Sixty-two, or 39.0 percent, of the graduates have held but one job. Forty-two, or 26.4 percent, have held two jobs. Five or more jobs were reported by 12, or 7.5 percent. Three of these respondents were in the class of 1961. Five, or 3.2 percent, reported they had not held a job. One of these graduates was in the class of 1958. The class of 1961 had their highest percentage of graduates still in their first job, as did 1960, 1959, 1958, and 1956. The class of 1957 had its highest percentage of graduates working in their second job since graduation.

Table 15. Ways of finding first job by occupational group

Occupational group	Parents No.	Friends No.	Want ads No.	School recommendation No.	Employment bureau No.	Placement bureau No.	Went to employer myself No.	Other No.	Total No.
Professional	2	5	6	7	0	11	10	2	43
Clerical, sales	1	2	1	0	4	3	3	1	15
Service	1	2	0	0	0	0	1	0	4
Agriculture	9	1	0	1	0	1	7	5	24
Skilled	1	4	0	1	0	2	7	0	15
Semi-skilled	3	4	1	0	0	0	6	0	14
Unskilled	1	1	0	0	2	0	1	0	5
Student	1	1	3	0	0	3	7	3	18
Armed forces	0	0	0	1	1	1	4	5	12
Other	1	2	1	0	1	0	3	1	9
Total number	20	22	12	10	8	21	49	17	159
Percent	12.6	13.8	7.5	6.3	5.0	13.2	30.8	10.8	100.0

Table 16. Number of full time jobs held since high school by year of graduation

Year of graduation	1 job		2 jobs		3 jobs		4 jobs		5 or more		none		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
1956	6	28.6	5	23.8	7	33.3	1	4.8	2	9.5	0	0	21	100.0
1957	9	31.0	11	37.9	3	10.3	4	13.9	2	6.9	0	0	29	100.0
1958	7	30.5	7	30.5	3	13.0	3	13.0	2	8.7	1	4.3	23	100.0
1959	7	38.9	3	16.7	3	16.7	4	22.2	1	5.5	0	0	18	100.0
1960	15	41.7	11	30.5	4	11.1	1	2.8	3	8.3	2	5.6	36	100.0
1961	18	56.3	5	15.7	3	9.4	2	6.2	2	6.2	2	6.2	32	100.0
Total number	62		42		23		15		12		5		159	
Percent	39.0		26.4		14.5		9.4		7.5		3.2		100.0	

Graduates who were working in the "type of work chosen in school" was shown in Table 17. An alarming 94, or 59.1 percent, reported they were not working in the type of work chosen in high school. Fifty-two, or 32.7 percent, reported "yes" and 13, or 8.2 percent, reported "don't know". The professional group had their highest percentage in the "no"

Table 17. Working in the type of work chosen in high school by occupational group

Occupational group	Yes		No		Don't know		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	13	30.2	27	62.8	3	7.0	43	100.0
Clerical, sales	6	40.0	7	46.7	2	13.3	15	100.0
Service	2	50.0	2	50.0	0	0	4	100.0
Agriculture	19	79.2	5	20.8	0	0	24	100.0
Skilled	2	13.3	11	73.4	2	13.3	15	100.0
Semi-skilled	0	0	12	85.7	2	14.3	14	100.0
Unskilled	0	0	5	100.0	0	0	5	100.0
Student	6	33.3	10	55.6	2	11.1	18	100.0
Armed forces	3	25.0	9	75.0	0	0	12	100.0
Other	1	11.1	6	66.7	2	22.2	9	100.0
Total number	52		94		13		159	
Percent	32.7		59.1		8.2		100.0	

column (27 or 62.8 percent), as did clerical (7 or 46.7 percent), skilled (11 or 73.4 percent), semi-skilled (12 or 85.7 percent), unskilled (5 or 100.0 percent), student (10 or 55.6 percent), and armed forces (9 or 75.0 percent). The only occupation with the highest percentage in the "yes" column was agriculture with 19, or 79.2 percent. The service group split with two, or 50.0 percent, "yes" and two, or 50.0 percent, "no". The highest percentage in the "no" column was the unskilled with five or 100.0 percent.

Table 18 was similar to Table 17 except the word "related" was added. Still the "no" column ranked highest with 74, or 46.5 percent, of the graduates reporting. Sixty-eight, or 42.8 percent, reported "yes", and 17, or 10.7 percent, reported "don't know". The occupational group scoring highest in the "yes" column were professional, clerical, and agricultural. Those occupational groups scoring highest in the "no" column were service, skilled, semi-skilled, unskilled, student, and armed forces. Nineteen, or 79.2 percent, of the agriculture group reported "yes", while 11, or 78.6 percent, of the semi-skilled group reported "no". Five, or 100.0 percent, in the unskilled group reported "no".

Data of graduates who were planning to make their present occupation their life's work was shown in Table 19. Eighty-eight, or 55.3 percent, of the graduates reported "yes". Twenty-four, or 15.1 percent, reported "no", and 22, or 13.9 percent, reported "don't know". The "agriculture" group seemed to be the most stable with 21 or 87.5 percent reporting "yes". Second was "clerical" with 13 or 86.6 percent.

Table 18. Working in the type of work related to that chosen in high school by occupational group

Occupational group	Yes		No		Don't know		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	22	51.1	18	41.9	3	7.0	43	100.0
Clerical, sales	9	60.0	5	33.3	1	6.7	15	100.0
Service	1	25.0	2	50.0	1	25.0	4	100.0
Agriculture	19	79.2	4	16.7	1	4.1	24	100.0
Skilled	3	20.0	8	53.3	4	26.7	15	100.0
Semi-skilled	2	14.3	11	78.6	1	7.1	14	100.0
Unskilled	0	0	5	100.0	0	0	5	100.0
Student	7	38.8	10	55.6	1	5.6	18	100.0
Armed forces	3	25.0	6	50.0	3	25.0	12	100.0
Other	2	22.2	5	55.6	2	22.2	9	100.0
Total number	68		74		17		159	
Percent	42.8		46.5		10.7		100.0	

Third was "service" with three or 75.0 percent. The most mobile groups were the "semi-skilled" and "unskilled" with six, or 42.9 percent, and three, or 60.0 percent, reporting "no" respectively. The "skilled" occupations were the most uncertain with five, or 33.3 percent, reporting "don't know".

Table 19. Graduates planning to make their present occupation their life's work by occupational group

Occupational group	Yes		No		No (military)		No (student)		Don't know		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	30	69.8	4	9.3	1	2.3	1	2.3	7	16.3	43	100.0
Clerical, sales	13	86.6	1	6.7	0	0	0	0	1	6.7	15	100.0
Service	3	75.0	0	0	0	0	0	0	1	25.0	4	100.0
Agriculture	21	87.5	1	4.2	0	0	0	0	2	8.3	24	100.0
Skilled	6	40.0	4	26.7	0	0	0	0	5	33.3	15	100.0
Semi-skilled	5	35.7	6	42.9	0	0	0	0	3	21.4	14	100.0
Unskilled	1	20.0	3	60.0	0	0	0	0	1	20.0	5	100.0
Student	0	0	2	11.1	0	0	15	83.3	1	5.6	18	100.0
Armed forces	3	25.0	0	0	8	66.7	0	0	1	8.3	12	100.0
Other	6	66.7	3	33.3	0	0	0	0	0	0	9	100.0
Total number	88		24		9		16		22		159	
Percent	55.3		15.1		5.7		10.0		13.9		100.0	

Attitudes About Industrial Arts

Table 20 reported the graduates' reasons for taking industrial arts. Thirty-one, or 28.2 percent, indicated "general usefulness" as the chief reason. "Thought I would like the course" was second with 23.6 percent and 26 responding. No one checked "recommended by another teacher" and it was dropped from the table.

Reasons for not taking industrial arts in high school were indicated in Table 21. "Took vocational agriculture instead" accounted for the principal reason with 38, or 74.5 percent, responding. Two, or 3.9 percent, reported "wasn't a prestige course" as being the reason for not taking industrial arts. Other reasons not stated in the questionnaire were reported by 11, or 21.6 percent. Those receiving no response, and therefore, not included in the table were "teacher advised me not to", "advice of parents", "disliked the teacher", and "took Spanish instead". "Lack of ability" was reported by one, or 25.0 percent. This graduate was in the lower 70-80 group.

The principal weaknesses of the high school industrial arts program was found on Table 22. "Lack of instruction in other areas" had the highest percentage (33.6 percent) with 37 reporting. Second was "other" with 29, or 26.5 percent. "Failure to show probable relationship to future life's work" was third with 15, or 13.6 percent reporting. "Too difficult" was dropped from the table because there were no responses.

The graduates sometimes checked two or more reasons. These were then placed in the "other" column.

Graduates' opinions about requiring at least one year of industrial

Table 20. Graduates' reasons for taking industrial arts by class rank

Class rank	Thought I would like the course		Hobby interests		Pre-vocational		Easy course		General usefulness	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	0	0	0	0	0	0	0	0	2	66.7
10-20	1	12.5	0	0	0	0	0	0	3	37.5
20-30	0	0	0	0	0	0	1	10.0	2	20.0
30-40	2	18.2	4	36.4	0	0	0	0	3	27.2
40-50	2	50.0	1	25.0	0	0	0	0	0	0
50-60	2	18.1	1	9.1	0	0	0	0	3	27.3
60-70	6	40.0	0	0	0	0	1	6.7	3	20.0
70-80	6	40.0	0	0	1	6.7	1	6.7	2	13.2
80-90	3	15.8	3	15.8	0	0	1	5.3	9	47.4
90-100	4	28.6	3	21.5	0	0	1	7.1	4	28.6
Total number	26		12		1		5		31	
Percent	23.6		10.9		0.9		4.5		28.2	

Class rank	Occupational information		Liked teacher		Practical		Good industrial background		Other		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	0	0	0	0	0	0	0	0	1	33.3	3	100.0
10-20	0	0	0	0	1	12.5	0	0	3	37.5	8	100.0
20-30	0	0	0	0	2	20.0	0	0	5	50.0	10	100.0
30-40	0	0	0	0	1	9.1	0	0	1	9.1	11	100.0
40-50	0	0	0	0	0	0	0	0	1	25.0	4	100.0
50-60	0	0	0	0	1	9.1	1	9.1	3	27.3	11	100.0
60-70	1	6.7	1	6.7	1	6.7	1	6.7	1	6.5	15	100.0
70-80	0	0	0	0	1	6.7	1	6.7	3	20.0	15	100.0
80-90	0	0	0	0	2	10.4	0	0	1	5.3	19	100.0
90-100	0	0	0	0	0	0	1	7.1	1	7.1	14	100.0
Total number	1		1		9		4		20		110	
Percent	0.9		0.9		8.2		3.7		18.2			100.0

Table 21. Reasons for not taking industrial arts in high school by class rank

	Class rank										Total	
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	No.	Pct.
Took vocational agriculture instead	7	2	5	1	6	3	5	2	3	4	38	74.5
Wasn't a prestige course	0	0	0	1	0	0	0	0	1	0	2	3.9
Other	0	0	1	3	3	1	0	2	1	0	11	21.6
Total number											51	100.0

Table 22. Principal weakness of the high school industrial arts program by class rank

Class rank	Poor methods of teaching		Poor quality of teachers		Too much time given to unnecessary details		Too easy		Failure to show probable relationship to future life's work	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	0	0	0	0	0	0	0	0	1	33.3
10-20	0	0	0	0	0	0	0	0	2	25.0
20-30	2	20.0	0	0	0	0	1	10.0	3	30.0
30-40	2	18.2	0	0	0	0	0	0	2	18.2
40-50	2	50.0	0	0	0	0	0	0	1	25.0
50-60	0	0	0	0	0	0	1	9.1	2	18.2
60-70	2	13.3	1	6.7	2	13.3	0	0	1	6.7
70-80	2	13.3	3	20.0	0	0	0	0	1	6.7
80-90	0	0	0	0	1	5.3	0	0	1	5.3
90-100	0	0	0	0	2	14.4	0	0	1	7.1
Total number	10		4		5		2		15	
Percent	9.1		3.6		4.5		1.8		13.6	

Class rank	Lack of equipment		Lack of instruction in other areas		Other		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	0	0	0	0	2	66.7	3	100.0
10-20	0	0	4	50.0	2	25.0	8	100.0
20-30	0	0	2	20.0	2	20.0	10	100.0
30-40	0	0	2	18.2	5	45.4	11	100.0
40-50	0	0	1	25.0	0	0	4	100.0
50-60	1	9.1	5	45.4	2	18.2	11	100.0
60-70	1	6.7	3	20.0	5	33.3	15	100.0
70-80	0	0	6	40.0	3	20.0	15	100.0
80-90	3	15.8	9	47.3	5	26.3	19	100.0
90-100	3	21.4	5	35.7	3	21.4	14	100.0
Total number	8		37		29		110	
Percent	7.3		33.6		26.5			100.0

arts for graduation were reported in Table 23. One hundred seventeen, or 73.6 percent, of the graduates reported "yes". "No" was reported by 28, or 17.6 percent, and "don't know" was reported by 14, or 8.8 percent. All of the occupational groups had their highest percentages in the "yes" column. The "service" had four, or 100.0 percent. Second was "clerical" with 13, or 86.7 percent. The highest percentage in the "no" column was the "student" group with 8, or 44.4 percent. "Don't know" had the highest percentage in the "unskilled" group with one, or 20.0 percent.

Table 23. Graduates' opinions about requiring at least one year of industrial arts for graduation by occupational group

Occupational group	Yes		No		Don't know		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	30	69.8	7	16.3	6	13.9	43	100.0
Clerical, sales	13	86.7	0	0	2	13.3	15	100.0
Service	4	100.0	0	0	0	0	4	100.0
Agriculture	20	83.3	3	12.5	1	4.2	24	100.0
Skilled	11	73.3	3	20.0	1	6.7	15	100.0
Semi-skilled	12	85.7	2	14.3	0	0	14	100.0
Unskilled	3	60.0	1	20.0	1	20.0	5	100.0
Student	8	44.4	8	44.4	2	11.2	18	100.0
Armed forces	10	83.3	2	16.7	0	0	12	100.0
Other	6	66.7	2	22.2	1	11.1	9	100.0
Total number	117		28		14		159	
Percent	73.6		17.6		8.8		100.0	

Table 24 was similar to Table 23 with the exception that the graduates were broken down by class rank rather than occupational group. The highest percentage in the "yes" column was reported by the lower 80-90 group with 19, or 90.4 percent, reporting. Second was the lower 70-80 group with 15, or 88.2 percent, responding. Third and fourth with 17, or 85.0 percent, and nine, or 81.1 percent, were the 90-100 and 0-10 groups respectively. The 50-60 group was lowest with 7, or 50.0 percent,

Table 24. Graduates' opinions about requiring at least one year of industrial arts for graduation by class rank

Class rank	Yes		No		Don't know		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0-10	9	81.8	2	18.2	0	0	11	100.0
10-20	6	60.0	3	30.0	1	10.0	10	100.0
20-30	7	41.2	8	47.0	2	11.8	17	100.0
50-40	11	73.3	3	20.0	1	6.7	15	100.0
40-50	9	75.0	2	16.7	1	8.3	12	100.0
50-60	7	50.0	3	21.4	4	28.6	14	100.0
60-70	17	77.3	4	18.2	1	4.5	22	100.0
70-80	15	88.2	1	5.9	1	5.9	17	100.0
80-90	19	90.4	1	4.8	1	4.8	21	100.0
90-100	17	85.0	1	5.0	2	10.0	20	100.0
Total number	117		28		14		159	
Percent	73.6		17.6		8.8		100.0	

reporting "yes". The highest percentage in the "no" column was the 20-30 group with eight, or 47.0 percent, reporting "no". The lowest percentage in the "no" column was the 80-90 group with one, or 4.8 percent reporting "no". "Don't know" had its highest percentage of 28.6 percent with 4 reporting.

Attitudes About Future Industrial Arts Courses

Graduates' opinions about taking a course in industrial arts related occupations were reported in Table 25. Ninety-six, or 60.4 percent reported "yes". "No" was reported by 14, or 8.8 percent; and "don't know" was reported by 49, or 30.8 percent. The "skilled" occupations reported the highest percentage in the "yes" column (13 or 86.7 percent). Second was "service" with three or 75.0 percent. The highest percentage reported in the "no" column was the "unskilled" occupations with one, or 20.0 percent, reporting. Eight students reported "don't know" totaling 44.4 percent. This was the highest in that column.

Those industrial arts units rating low in popularity had a high percentage in the "no opinion" column. "Pneumatics" which had the lowest favorable percentage (19.5 percent) had the highest percentage in the "no opinion" column (45.3 percent). This would indicate that the graduates knew very little about the unit. This might also be true for sheetmetal with 37.8 percent reporting "no opinion", and machine shop with 37.1 percent reporting "no opinion".

Fifty-three, or 33.3 percent, of the graduates responded "no" to

Table 25. Graduates' opinions about a course in occupations by occupational group

Occupational group	Yes		No		Don't know		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	26	60.5	4	9.3	13	30.2	43	100.0
Clerical, sales	10	66.7	0	0	5	33.3	15	100.0
Service	3	75.0	0	0	1	25.0	4	100.0
Agriculture	15	62.5	3	12.5	6	25.0	24	100.0
Skilled	13	86.7	0	0	2	13.3	15	100.0
Semi-skilled	10	71.4	1	7.2	3	21.4	14	100.0
Unskilled	2	40.0	1	20.0	2	40.0	5	100.0
Student	7	38.9	3	16.7	8	44.4	18	100.0
Armed forces	5	41.7	1	8.3	6	50.0	12	100.0
Other	5	55.6	1	11.1	3	33.3	9	100.0
Total number	96		14		49		159	
Percent	60.4		8.8		30.8		100.0	

taking a unit in sheetmetal as shown in Table 26. Forty-six, or 28.9 percent, responded "yes", and 60, or 37.8 percent, responded "no opinion". The "skilled" occupations seemed to express interest with eight, or 53.3 percent, responding "yes". The "professional" group seemed least interested with 19, or 44.2 percent, responding "no".

Welding seemed acceptable with 94, or 59.1 percent, of the graduates

Table 26. Graduates' opinions about taking a unit in sheetmetal if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	9	20.9	19	44.2	15	34.9	43	100.0
Clerical, sales	2	13.3	8	53.3	5	33.4	15	100.0
Service	2	50.0	1	25.0	1	25.0	4	100.0
Agriculture	10	41.7	6	25.0	8	33.3	24	100.0
Skilled	8	53.3	2	13.3	5	33.4	15	100.0
Semi-skilled	5	35.7	5	35.7	4	28.6	14	100.0
Unskilled	1	20.0	1	20.0	3	60.0	5	100.0
Student	5	27.8	6	33.3	7	38.9	18	100.0
Armed forces	3	25.0	3	25.0	6	50.0	12	100.0
Other	1	11.1	2	22.2	6	66.7	9	100.0
Total number	46		53		60		159	
Percent	28.9		33.3		37.8		100.0	

responding "yes" as shown in Table 27. Twenty-eight, or 17.6 percent, responded "no" and 37, or 23.3 percent, responded "no opinion". Those occupational groups with a 75.0 percent response or better included "skilled" (12 or 80.0 percent), "semi-skilled" (11 or 78.6 percent) and "agriculture" (19 or 79.1 percent). "Clerical" had the highest percentage in the "no" column with 5, or 33.3 percent. "No opinion" had its highest percentage in the "unskilled" group with 3 or 60.0 percent.

Table 27. Graduates' opinions about taking a unit in welding if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	24	55.8	13	30.2	6	14.0	43	100.0
Clerical, sales	6	40.0	5	33.3	4	26.7	15	100.0
Service	2	50.0	1	25.0	1	25.0	4	100.0
Agriculture	19	79.1	1	4.2	4	16.7	24	100.0
Skilled	12	80.0	2	13.3	1	6.7	15	100.0
Semi-skilled	11	78.6	1	7.1	2	14.3	14	100.0
Unskilled	2	40.0	0	0	3	60.0	5	100.0
Student	10	55.5	3	16.7	5	27.8	18	100.0
Armed forces	5	41.7	1	8.3	6	50.0	12	100.0
Other	3	33.3	1	11.1	5	55.6	9	100.0
Total number	94		28		37		159	
Percent	59.1		17.6		23.3		100.0	

Fifty-four, or 34.0 percent, of the graduates reported "yes" to taking a unit in machine shop as shown in Table 28. "No" was reported by 46, or 28.9 percent; and "no opinion" was reported by 59, or 37.1 percent. Fifty percent of the service group reported "yes", but only two responded. Eighteen, or 41.9 percent, of the "professional" group reported "no".

Table 28. Graduates' opinions about taking a unit in machine shop if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	14	32.5	18	41.9	11	25.6	43	100.0
Clerical, sales	4	26.7	6	40.0	5	33.3	15	100.0
Service	2	50.0	1	25.0	1	25.0	4	100.0
Agriculture	9	37.5	4	16.7	11	45.8	24	100.0
Skilled	7	46.6	4	26.7	4	26.7	15	100.0
Semi-skilled	6	42.8	4	28.6	4	28.6	14	100.0
Unskilled	1	20.0	1	20.0	3	60.0	5	100.0
Student	7	38.9	4	22.2	7	38.9	18	100.0
Armed forces	3	25.0	3	25.0	6	50.0	12	100.0
Other	1	11.1	1	11.1	7	77.8	9	100.0
Total number	54		46		59		159	
Percent	34.0		28.9		37.1		100.0	

Only 40, or 25.1 percent, of the graduates reported "yes" to taking a course in motor rewind as shown in Table 29. Fifty-five, or 34.6 percent, reported "no", and 64, or 40.3 percent, reported "no opinion". The highest percentage in the "yes" column was the "skilled" group with eight or 53.3 percent. The highest percentage in the "no" column was the "unskilled" group with 3, or 60.0 percent.

Table 29. Graduates' opinions about taking a unit in motor rewind if offered by occupational group

Occupational group	Yes		No		Don't know		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	8	18.6	17	39.5	18	41.9	43	100.0
Clerical, sales	3	20.0	8	53.3	4	26.7	15	100.0
Service	1	25.0	1	25.0	2	50.0	4	100.0
Agriculture	6	25.0	7	29.2	11	45.8	24	100.0
Skilled	8	53.3	5	33.3	2	13.4	15	100.0
Semi-skilled	5	35.7	5	35.7	4	28.6	14	100.0
Unskilled	0	0	3	60.0	2	40.0	5	100.0
Student	4	22.2	6	33.3	8	44.5	18	100.0
Armed forces	4	33.3	2	16.7	6	50.0	12	100.0
Other	1	11.1	1	11.1	7	77.8	9	100.0
Total number	40		55		64		159	
Percent	25.1		34.6		40.3		100.0	

House wiring seemed to be in demand with 102, or 64.1 percent of the graduates reporting "yes" (Table 30). Twenty, or 12.6 percent, reported "no"; and 37, or 23.3 percent, reported "no opinion". Of those occupational groups responding favorable with 75.0 percent or more, were "semi-skilled" (12 or 85.7 percent) and "service" (3 or 75.0 percent). The highest number (3 or 20.0 percent) in the "no" column was reported by the "skilled" group.

Table 30. Graduates' opinions about taking a unit in house wiring if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	27	62.8	7	16.3	9	20.9	43	100.0
Clerical, sales	11	73.4	2	13.3	2	13.3	15	100.0
Service	3	75.0	0	0	1	25.0	4	100.0
Agriculture	12	50.0	3	12.5	9	37.5	24	100.0
Skilled	10	66.7	3	20.0	2	13.3	15	100.0
Semi-skilled	12	85.7	2	14.3	0	0	14	100.0
Unskilled	2	40.0	1	20.0	2	40.0	5	100.0
Student	12	66.6	1	5.6	5	27.8	18	100.0
Armed forces	7	58.3	1	8.3	4	33.4	12	100.0
Other	6	66.7	0	0	3	33.3	9	100.0
Total number	102		20		37		159	
Percent	64.1		12.6		23.3		100.0	

Basic electronics rated favorably with the graduates as reported in Table 31. One hundred five, or 66.0 percent, of the graduates reported "yes", while 24, or 15.1 percent, reported "no". Thirty, or 18.9 percent, expressed "no opinion". Those occupational groups reporting 75.0 percent "yes" or better were "armed forces" (12 or 100.0 percent), "students" (14 or 77.8 percent), and "service" (3 or 75.0 percent). The highest percentage (40.0 percent) in the "no" column was the "unskilled" group with only two reporting.

Table 31. Graduates' opinions about taking a unit in basic electronics if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	31	72.2	6	13.9	6	13.9	43	100.0
Clerical, sales	10	66.7	2	13.3	3	20.0	15	100.0
Service	3	75.0	0	0	1	25.0	4	100.0
Agriculture	8	33.3	6	25.0	10	41.7	24	100.0
Skilled	10	66.7	4	26.7	1	6.6	15	100.0
Semi-skilled	10	71.4	3	21.4	1	7.2	14	100.0
Unskilled	1	20.0	2	40.0	2	40.0	5	100.0
Student	14	77.8	1	5.5	3	16.7	18	100.0
Armed forces	12	100.0	0	0	0	0	12	100.0
Other	6	66.7	0	0	3	33.3	9	100.0
Total number	105		24		30		159	
Percent	66.0		15.1		18.9		100.0	

Ninety-six, or 60.4 percent, of the graduates reported "yes" to taking a course in power mechanics as shown in Table 32. Twenty-five, or 15.7 percent, reported "no"; and 38, or 29.3 percent, reported "no opinion". "Agriculture" had the highest percentage (79.2 percent) in the "yes" column with 19 reporting. Four, or 26.7 percent, was the highest in the "no" column by the "skilled" group.

Table 32. Graduates' opinions about taking a course in power mechanics if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	26	60.5	9	20.9	8	18.6	43	100.0
Clerical, sales	10	66.7	2	13.3	3	20.0	15	100.0
Service	2	50.0	0	0	2	50.0	4	100.0
Agriculture	19	79.2	1	4.2	4	16.6	24	100.0
Skilled	9	60.0	4	26.7	2	13.3	15	100.0
Semi-skilled	8	57.1	2	14.3	4	28.6	14	100.0
Unskilled	2	40.0	1	20.0	2	40.0	5	100.0
Student	10	55.6	2	11.1	6	33.3	18	100.0
Armed forces	7	58.3	3	25.0	2	16.7	12	100.0
Other	3	33.3	1	11.1	5	55.6	9	100.0
Total number	96		25		38		159	
Percent	60.4		15.7		23.9		100.0	

As shown in Table 33, fluid power received a low percentage in the "yes" column with only 61, or 38.4 percent, responding. The "no" column had 42, or 26.4 percent; and the "no opinion" column had 56, or 35.2 percent. "Agriculture" had the highest percentage (58.4 percent) in the "yes" column with 14 responding. "Clerical" had the highest percentage (40.0 percent) in the "no" column with six male graduates responding.

Table 33. Graduates' opinions about taking a unit in fluid power if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	15	34.9	13	30.2	15	34.9	43	100.0
Clerical, sales	4	26.7	6	40.0	5	33.3	15	100.0
Service	2	50.0	1	25.0	1	25.0	4	100.0
Agriculture	14	58.4	5	20.8	5	20.8	24	100.0
Skilled	6	40.0	4	26.7	5	33.3	15	100.0
Semi-skilled	7	50.0	3	21.4	4	28.6	14	100.0
Unskilled	1	20.0	1	20.0	3	60.0	5	100.0
Student	8	44.4	3	16.7	7	38.9	18	100.0
Armed forces	3	25.0	4	33.3	5	41.7	12	100.0
Other	1	11.1	2	22.2	6	66.7	9	100.0
Total number	61		42		56		159	
Percent	38.4		26.4		35.2		100.0	

The response was unfavorable in pneumatics with only 31, or 19.5 percent, expressing "yes" (Table 34). Fifty-six, or 35.2 percent, reported "no", and 72, or 45.3 percent, reported "no opinion". The "skilled" group had the highest percentage (26.7 percent) in the "yes" column with 4 responding. "Agriculture" had the highest percentage (41.7 percent) in the "no" column with 10 reporting.

Table 34. Graduates' opinions about taking a unit in pneumatics if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	9	20.9	18	41.9	16	37.2	43	100.0
Clerical, sales	2	13.3	5	33.3	8	53.4	15	100.0
Service	1	25.0	1	25.0	2	50.0	4	100.0
Agriculture	4	16.6	10	41.7	10	41.7	24	100.0
Skilled	4	26.7	6	40.0	5	33.3	15	100.0
Semi-skilled	1	7.1	5	35.7	8	57.2	14	100.0
Unskilled	1	20.0	2	40.0	2	40.0	5	100.0
Student	5	27.8	4	22.2	9	50.0	18	100.0
Armed forces	3	25.0	3	25.0	6	50.0	12	100.0
Other	1	11.1	2	22.2	6	66.7	9	100.0
Total number	31		56		72		159	
Percent	19.5		35.2		45.3		100.0	

Eighty-seven, or 54.7 percent, of the graduates expressed "yes" to taking an architectural drafting course as reported in Table 35. Thirty-four, or 21.4 percent, indicated "no", and 38, or 23.9 percent, indicated "no opinion". The "armed forces" had the highest percentage (75.0 percent) in the "yes" column with 9 reporting. Five, or 33.3 percent, were reported in the "no" column by the "clerical" group.

Table 35. Graduates' opinions about a unit in architectural drafting if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	24	55.8	13	30.2	6	14.0	43	100.0
Clerical, sales	8	53.3	5	33.3	2	13.4	15	100.0
Service	2	50.0	1	25.0	1	25.0	4	100.0
Agriculture	9	37.5	5	20.8	10	41.7	24	100.0
Skilled	8	53.3	4	26.7	3	20.0	15	100.0
Semi-skilled	7	50.0	3	21.4	4	28.6	14	100.0
Unskilled	3	60.0	1	20.0	1	20.0	5	100.0
Student	13	72.2	2	11.1	3	16.7	18	100.0
Armed forces	9	75.0	0		3	25.0	12	100.0
Other	4	44.4	0		5	55.6	9	100.0
Total number	87		34		38		159	
Percent	54.7		21.4		23.9		100.0	

Auto mechanics rated very favorably with the graduates. One hundred six, or 66.7 percent, reported "yes". Only 20, or 12.6 percent, reported "no", and 33, or 20.7 percent, reported "no opinion". Groups reporting 75.0 percent or better were "armed forces" (10 or 83.4 percent), "unskilled" (4 or 80.0 percent) and "agriculture" (18 or 75.0 percent). The highest percentage (27.8) in the "no" column was expressed by five in the "student" group.

Table 36. Graduates' opinions about taking a unit in auto mechanics if offered by occupational group

Occupational group	Yes		No		No opinion		Total	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Professional	31	72.0	6	14.0	6	14.0	43	100.0
Clerical, sales	9	60.0	1	6.7	5	33.3	15	100.0
Service	2	50.0	0	0	2	50.0	4	100.0
Agriculture	18	75.0	0	0	6	25.0	24	100.0
Skilled	9	60.0	3	20.0	3	20.0	15	100.0
Semi-skilled	9	64.3	2	14.3	3	21.4	14	100.0
Unskilled	4	80.0	0	0	1	20.0	5	100.0
Student	9	50.0	5	27.8	4	22.2	18	100.0
Armed forces	10	83.4	1	8.3	1	8.3	12	100.0
Other	5	55.6	2	22.2	2	22.2	9	100.0
Total number	106		20		33		159	
Percent	66.7		12.6		20.7		100.0	

Evaluation of High School Courses

Thirty-four courses were listed on the questionnaire for evaluation. The courses were ranked from highest to lowest and then divided in half and put on two separate tables. The courses were rated twice -- for job value and for general usefulness.

The seventeen highest ranked courses by job value were reported in Table 37. The courses were rated on a five point system. "Extremely useful" accounted for 5 points, "very useful" for 4 points, "useful" for 3 points, "of little use" for 2 points and "no use" for 1 point. Any mean score of 2.500 or better indicated that the course had some use.

Vocational agriculture IV had the highest mean (4.296) and a standard deviation of 1.295 with 27 reporting. General math was second with a mean of 4.226 and a standard deviation of .973 with 53 reporting. General business with a mean of 4.000 and a standard deviation of 1.225 with 36 reporting ranked third, while bookkeeping with a mean of 3.836 and a standard deviation of 1.267 with 61 reporting ranked fourth. Spanish II with a mean of 3.833 ranked fifth, but had a standard deviation of 2.994 with only 6 reporting.

Table 38 shows the seventeen lowest ranked courses by job value. Those ranked 14th, 15th, 16th and 17th lowest were U.S. history (mean 2.431, standard deviation 1.157, 144 reporting), Spanish I (mean 2.333, standard deviation 1.506, 14 reporting), World history (mean 2.333, standard deviation 1.122, 144 reporting) and Spanish III (mean 2.333, standard deviation 1.155, 3 reporting). Those courses with a mean of around 2.000 indicated that they were of little use to the graduates.

Table 37. Seventeen highest ranked courses by job value -- tabulated by mean score (English omitted)

Courses	Mean score	Standard deviation	Number of responses
Vocational agriculture IV	4.296	1.295	27
General mathematics	4.226	.973	53
General business	4.000	1.225	36
Bookkeeping	3.836	1.267	61
Spanish II	3.833	2.994	6
Consumers mathematics	3.739	1.326	42
Speech	3.722	1.074	18
Solid geometry	3.667	1.204	24
Vocational agriculture III	3.639	1.606	36
Advanced algebra	3.600	1.356	70
Trigonometry	3.563	1.214	55
Vocational agriculture II	3.458	1.515	48
Industrial arts II	3.483	1.203	58
Driver training	3.439	1.637	57
Typing	3.397	1.333	136
Physics	3.351	1.243	74
Vocational agriculture I	3.296	1.513	54

Table 38. Seventeen lowest ranked courses by job value -- tabulated by mean score (English omitted)

Courses	Mean score	Standard deviation	Number of responses
Algebra I	3.296	1.256	115
Plane geometry	3.136	1.178	80
Chemistry	3.104	1.176	77
General science	3.074	1.149	148
Psychology	3.071	1.120	28
Social problems	3.035	1.164	113
Art II	3.000	.756	8
Industrial arts I	2.894	1.291	94
Physical education	2.799	1.412	144
Art I	2.759	1.786	29
Journalism	2.750	1.293	20
Government, American	2.637	1.056	146
Biology	2.578	1.221	128
U.S. history	2.431	1.157	144
Spanish I	2.333	1.506	14
World history	2.333	1.122	144
Spanish III	2.333	1.155	3

Table 39 shows the seventeen highest ranked courses by general usefulness. Driver training was highest rated with a mean of 4.289, and a standard deviation of 1.177 with 52 reporting. Second was general math with a mean of 4.250, and a standard deviation of .943 with 44 reporting. General business was third with a mean of 4.000, a standard deviation of .756 with only 8 reporting. Fourth was speech with a mean of 4.000, and a standard deviation of .970 with 18 reporting. Spanish II was fifth with a mean of 4.000, but with a standard deviation of 2.507 with only 8 reporting.

Table 40 shows the seventeen lowest ranked courses by general usefulness. Those ranked 14th, 15th, 16th and 17th lowest were biology (mean 2.928, standard deviation 1.006, 111 reporting), Art I (mean 2.889, standard deviation 1.739, 27 reporting), journalism (mean 2.875, standard deviation 1.310, 16 reporting) and Spanish III (mean 2.333, standard deviation 1.155, 3 reporting).

The class of 1960 had the highest percentage of male graduates 1) returning the questionnaire, 2) who were in the unskilled occupations, 3) who were in the armed forces, and 4) still living with parents. It was also the largest class.

The class of 1961 had the highest percentage of male graduates 1) who were in the semi-skilled occupations, 2) still going to school, 3) living in an apartment, 4) living 10-20 miles away, 5) living 100-200 miles away, 6) who have one year of trade or business school, and 7) who have a bachelor's degree.

The class of 1956 had the highest percentage of graduates living 5-10

Table 39. Seventeen highest ranked courses by general usefulness - tabulated by mean score (English omitted)

Course	Mean score	Standard deviation	Number of responses
Driver training	4.289	1.177	52
General math	4.250	.943	44
General business	4.000	.756	8
Speech	4.000	.970	18
Spanish II	4.000	2.507	8
Bookkeeping	3.909	.968	55
Consumers math	3.829	1.071	35
Industrial arts	3.660	1.062	50
Typing	3.583	1.247	120
Vocational agriculture IV	3.522	1.410	23
Spanish I	3.429	1.512	7
Algebra I	3.398	1.079	103
Industrial arts I	3.309	1.103	81
Psychology	3.296	1.325	27
Advanced algebra	3.290	1.136	62
General science	3.287	1.025	129
Vocational agriculture I	3.267	1.269	45

Table 40. Seventeen lowest ranked courses by general usefulness - tabulated by mean score (English omitted)

Course	Mean score	Standard deviation	Number of responses
Social problems	3.263	.954	99
Physical education	3.260	1.255	127
Vocational agriculture II	3.225	1.310	40
Government, American	3.186	.942	129
Vocational agriculture III	3.167	1.392	30
Physics	3.154	1.034	65
World history	3.039	1.012	129
Art II	3.000	.816	7
Chemistry	3.000	.985	67
U.S. history	3.000	1.012	126
Solid geometry	3.000	1.113	22
Plane geometry	2.986	1.000	72
Trigonometry	2.980	.968	49
Biology	2.928	1.006	111
Art I	2.889	1.739	27
Journalism	2.875	1.310	16
Spanish III	2.333	1.155	3

miles away, and the highest percentage of graduates living 20-40 miles away.

The class of 1957 had the highest percentage of male graduates 1) in the clerical and sales occupations, 2) engaged in agriculture, 3) living in a rented home, 4) living 40-100 miles away, 5) with two years of trade or business school, 6) with a master's degree, 7) who did not further their education, and 8) reporting lack of money as a reason for dropping out of school.

The class of 1958 had the highest percentage of male graduates 1) who were married, 2) who were in the professional occupations, 3) who owned their own home, 4) living 0-5 miles away from Belmond, 5) who are employed full time, and 6) who have held more than five jobs.

The class of 1959 had the highest percentage of male graduates 1) who were in the skilled occupations, 2) living 200 or more miles away, 3) dropping out of school, and 4) still working in their first job.

DISCUSSION

A collection of various thoughts and questions occurred while preparing this study, and are brought forth in this chapter.

The high percent return of the questionnaire by male graduates was very satisfying. The 88 percent return of the questionnaire was considerably higher than some of the similar studies. Takeuchi (13) had a 76 percent return of the questionnaire. Chadwick (4), Gardner (5), Gatch (6), Hanson (7), and Husted (9) all had below 70 percent return of their questionnaire. The high percentage in this study was attributed seemingly to the researcher's effort in 1) sending a follow-up post card, 2) sending a second questionnaire, 3) telephoning many of the hesitant graduates, and 4) writing a new article explaining the study, and asking for their cooperation.

Brown (2) found the number of people working in the field related to their education to be small (39 percent), but no comparison can be made with the present study because he used the words "related to their education". The present study used the words "related to that job chosen in high school". His figure should be questioned. Certainly the general courses that are offered in high school would have some relation to any job.

Many of the graduates reported they would have taken a course in occupations. There seems to be a need for considering offering a course on occupational guidance since less than one-half of the graduates were working in the type of work related to occupation chosen in high school. There are two approaches to a solution of the problem. The school could

offer a semester course in occupations, or occupations could be integrated into the present courses. The second approach has been implemented in the Belmond school. For example, the students are shown an occupational film that is related to the unit they are studying. Field trips are taken, whereby the students can gain first hand knowledge about the occupation. It might be well that other subjects follow this same example. The graduates also thought that students should know why they are taking a course. This, too, falls in the category of occupational guidance. Every course should have occupational justification. "You'll need this when you go on to college" is not a good enough justification.

Husted (9) reported that 80.4 percent of the graduates either worked at home or in the same city. A lower value was reported by Gatch (64 percent), but he reported the graduates living and working in the immediate area. The present researcher found only 43 percent of the graduates were living within a 10 mile radius of Belmond.

Hanson's (6) study and the present study agreed that "general usefulness" was the main reason why the graduates took industrial arts. "Failure to show probable relationship of the program to future life's work" was the principal weakness of the Clarion high school as reported by Hanson (9), and was rated second in the Belmond study.

The researcher sometimes questioned the truthfulness of the respondents because there never was a bad comment said about industrial arts. The comments were usually in the form of helpful suggestions. Most of the respondents took industrial arts "back in the days" when only woodworking was offered. They took woodworking, woodworking, and

woodworking; yet they seem to enjoy it. With all the recent changes that have been made in the industrial arts curriculum, there seemed to be some question regarding the value of such changes.

Takeuchi's (13) study reported that "parents" were most influential in helping the graduates select an occupation. "Myself only" had the greatest influence in occupational selection in this study. Only the agricultural group rated "parents" as most influential.

There were 43, or 27.0 percent, of the graduates classified as "professionals", while only 24, or 15.1 percent were classified in "agriculture". There was a question as to the proper classification of the graduates. Some of the graduates who were "professionals" were working in the agriculture field, but were classified as "professionals". For example, a vocational agriculture teacher would not be classified as "agriculture". The "agriculture" group consisted mainly of farmers.

A high percentage of the graduates (73.6 percent) reported that at least one year of industrial arts should be required for graduation. This is a fact that should be of concern to the high school administration. Some of these graduates had taken vocational agriculture, but still thought that at least one year of industrial arts should be required. Twenty, or 83.3 percent, of the graduates classified as "agriculture" thought at least one year of industrial arts should be required. Both the upper 0-10 group and the lower 90-100 group by class rank were above 80 percent in favor of a required course in industrial arts. This would indicate that industrial arts is good for both the

upper and lower ranks.

The graduates in Chadwick's (4) study placed the most value on wood work, metal work, and mechanical drawing. Welding and machine shop rated highest insofar as being of much value to the industrial arts graduates as shown in Hanson's (7) study. The findings of the present study does not agree with those of the other studies. Automobile mechanics and electronics were the most popular units in the Belmond study.

One suspects that the selection of industrial arts units was more on familiarity than on content. Those units that were unfamiliar were ranked lowest by the graduates. Automobile mechanics and electronics might be a good "calling card" for a larger enrollment.

The low rating that Spanish received agreed with Buck's (3) study, but the rating scale was different. He used a four point system to determine a mean score, and this study used a five point system. The validity of ranking courses by "means" is questionable. The Spanish courses rated both very high and very low. This can be explained to some extent by the fact that the number reporting was low and the standard deviation was high. There is no "magic number" for a standard deviation, but it can be said that a majority of the graduates agree if the standard deviation is less than one. The male graduates who took Spanish II, for example, had mixed emotions and could not agree to its importance (Tables 37 and 39). As many graduates benefited from the course, as those who did not; yet the mean would be around "three". A mean of "three" would imply that the course, as a whole, would be useful, which is questionable.

The reason for ranking the courses twice was to give each course two chances to score high. Some of the courses had a low mean score and a low standard deviation in both the "general usefulness" and "job value" ratings. These courses were Spanish III, journalism, biology, U.S. History, and world history. Journalism has been dropped from the Belmond high school curriculum since the graduates took it. The other four courses should be reviewed by the high school administration.

Research in the Belmond high school should continue. The present study can be more valuable when compared with results of later years. Only then can one approach a more accurate solution to school problems of course offerings.

SUMMARY

The study was made for the purpose of gathering information from the male graduates of Belmond high school. The sample consisted of graduates from 1956 through 1961. A questionnaire was used. The information obtained was broken down into five categories which were 1) general information, 2) education and job selection, 3) attitudes about industrial arts, 4) attitudes about future industrial arts courses, and 5) evaluation of the high school courses.

The industrial arts program at Belmond high school had undergone some changes in its curriculum. The main purpose of this study was to determine if the changes could be justified, and to determine if more additions could be made. Another aim was to provide general information about the graduates. The more specific objectives were 1) to determine the type of occupation chosen by graduates, 2) to determine the type of post high school education pursued, 3) to determine the amount of education acquired, 4) to determine by opinion which high school courses were useful, 5) to determine by opinion if there was a need for the addition of more units of training in industrial arts, and 6) to determine by opinion why students do or do not enroll in industrial arts.

The data were collected by means of a questionnaire that had twenty-three questions with multiple answers. The graduates were asked to check one answer. Eleven industrial arts courses were listed and space provided to check "yes", "no", or "no opinion". The remainder of the questionnaire listed all the courses that were offered in the Belmond school system during the years 1956 through 1961.

Courses that the respondent had taken were checked before the questionnaire was mailed to him. Each course was rated twice -- first for its job value, and second for its general usefulness. A five point system was used with five points for "extremely useful", four points for "very useful", three points for "useful", two points for "of little use", and one point for "no use". Space was allotted at the bottom of the page for any additional comments.

Of the 181 questionnaires sent out 159 were returned representing 87.8 percent of all the eligible male graduates from the years 1956 through 1961.

Of the 159 graduates reporting 121 or 76.0 percent are married. The occupations of the graduates were categorized using a modified dictionary of occupational titles classification. It was found that 43, or 27.0 percent, of the graduates were "professionals"; 15, or 9.4 percent were in the "clerical" work; 4, or 2.5 percent, were in "service" work; 24 or 15.1 percent were in "agriculture"; 15, or 9.4 percent were "skilled"; 14, or 8.8 percent were "semi-skilled"; five, or 3.2 percent were "unskilled"; 18, or 11.3 percent were "students"; 12, or 76.3 percent were in the "armed forces"; and nine or 5.7 percent were classified as "other".

Thirty-six, or 22.6 percent, of the graduates own their home. One hundred thirteen, or 71.1 percent of the graduates live no more than 200 miles away from Belmond. The "professional" group seem to leave Belmond with only 3, or 7.0 percent living within five miles of Belmond. Sixty-eight, or 42.8 percent, of the graduates have received some sort of trade

or training beyond high school other than college. Graduates with a class rank of 50 to lower 60 were the highest group with two years of trade or training reporting four or 28.6 percent. Forty-five, or 28.3 percent, of the graduates have their bachelor's degree. Graduates with a class rank of upper 20-30 were the highest group with bachelor's degree with 12 or 70.6 percent reporting in that group. Graduates with a class rank of lower 70-80 were lowest with no one reporting a bachelor's degree. Two or 10.0 percent with a class rank in the lower 90-100 reported having a bachelor's degree. As the class rank lowered, the number of male graduates dropping out of higher education increased as shown on Table 10.

The reasons for dropping out of post high school varied. "Poor grades in college" was the main reason for the graduates in the upper class ranks. Those graduates in the lower class ranks indicated "lack of money", "lack of interest or motivation", and "other" as their reason for dropping.

"Full time" employment was reported by 132, or 83.0 percent of the graduates. "Went to employer myself" was the best way graduates found their first job as reported by 49 or 30.8 percent. Sixty-two, or 39.0 percent, of the graduates still hold their first job, while 42, or 26.4 percent, of the graduates are employed in their second job. Only 52, or 32.7 percent, of the graduates are working in the type of work chosen in high school, and only 68, or 42.8 percent, of the graduates are working in the type of work <u>related</u> to that chosen in high school. Eighty-eight, or 55.3, percent of the graduates are planning to make their present

occupation their life's work. The "agriculture" group seemed to be the most stable with 21, or 87.5 percent, of that group indicating they plan to stay in their type of work.

"General usefulness" was the main reason for taking industrial arts as reported by 31, or 28.2 percent, of the graduates who took industrial arts. "Took vocational agriculture instead" was the main reason for not taking industrial arts with 38, or 74.5 percent, of those graduates who did not take industrial arts reporting. "Lack of instruction in other areas" was the principal weakness of the high school industrial arts program as reported by 37 or 33.6 percent. One hundred seventeen, or 73.6 percent of the total number of graduates thought industrial arts should be required for graduation. Those with a class rank of lower 80-90 as a group rated highest in wanting a required course in industrial arts reporting 19 or 90.4 percent. Ninety-six, or 60.4 percent, of the graduates favored having a course in occupations. Of the occupational groups the "skilled" group rated highest with 13, or 86.7 percent, favoring a course in occupations.

Auto mechanics was the most popular unit having the highest percentage (106 or 66.7 percent) of graduates wanting such a unit if offered. Ten, or 83.4 percent, of the graduates in the "armed forces" expressed a desire for auto mechanics.

Basic electronics was the second highest industrial arts unit with 105, or 66.0 percent, showing interest. Twelve, or 100.0 percent, of the graduates in the "armed forces" would have taken a unit in basic electronics.

Basic house wiring ranked third with 102, or 64.1 percent, expressing an interest. Twelve, or 85.7 percent, of the graduates in the "semi-skilled group" indicated they would have taken a unit in basic house wiring.

Fourth was power mechanics with 96, or 60.4 percent of the total graduates expressing an interest. The "agriculture group" reported the greatest interest in power mechanics with 19, or 79.2 percent in favor of power mechanics.

Fifth ranked was welding with 94, or 59.1 percent, of the total graduates expressing interest. The "skilled" occupational group scored highest in welding with 12, or 80.0 percent reporting favorably.

Architectural drafting ranked sixth with 87, or 54.7 percent, showing a desire to have enrolled in a drafting unit. Highest in favor of an architectural drafting course was the "student" group with 13, or 72.2 percent expressing interest.

Fluid power ranked seventh with 61, or 38.4 percent, showing interest. Highest ranked in favor of fluid power was the "agriculture group" with 14, or 58.4 percent, of that group reporting favorably.

Machine shop was ranked eighth with 54, or 34.0 percent showing interest. The highest occupational group showing interest in machine shop was the "service" group with two or 50.0 percent reporting.

Sheetmetal ranked ninth with 46, or 28.9 percent, of the total graduates expressing interest. The "skilled" occupational group showed the highest interest in sheetmetal with 8, or 53.3 percent, in favor of such a course.

Motor rewind ranked tenth with 40, or 25.1 percent of the graduates interested. The "skilled" occupational group had the highest percentage (53.3 percent) in favor of motor rewind with 8 reporting.

Ranking eleventh and least popular with pneumatics with 31, or 19.5 percent of the graduates expressing interest. The "student" occupational group ranked highest in pneumatics with five or 27.8 percent reporting favorably.

The following paragraphs report the graduates' ratings of their high school courses. The courses were rated twice, each on a five point system. They were rated once for job value and once for general usefulness. English was omitted.

The five highest ranked courses by job value tabulated by mean score were 1) Vocational agriculture IV (mean 4.296, standard deviation 1.295, 27 reporting), 2) general math (mean 4.226, standard deviation .973, 53 reporting), 3) general business (mean 4.000, standard deviation 1.225, 36 reporting), 4) bookkeeping (mean 3.836, standard deviation 1.267, 61 reporting), and 5) Spanish II (mean 3.833, standard deviation 2.994, 6 reporting).

The four lowest ranked courses by job value tabulated by mean score were 1) U.S. history (mean 2.431, standard deviation 1.157, 114 reporting), 2) Spanish I (mean 2.333, standard deviation 1.506, 14 reporting), 3) World history (mean 2.333, standard deviation 1.122, 144 reporting), and 4) Spanish III (mean 2.333, standard deviation 1.155, 3 reporting.

The five highest ranked courses by general usefulness tabulated by mean score were 1) driver training (mean 4.289, standard deviation 1.177,

52 reporting), 2) general math (mean 4.250, standard deviation .943, 44 reporting), 3) general business (mean 4.000, standard deviation .756, 8 reporting), 4) speech (mean 4.000, standard deviation .970, 18 reporting), and 5) Spanish II, (mean 4.000, standard deviation 2.507, 8 reporting).

The four lowest ranked courses by general usefulness tabulated by mean score were 1) biology (mean 2.928, standard deviation 1.006, 111 reporting), 2) Art I (mean 2.889, standard deviation 1.739, 27 reporting), 3) journalism (mean 2.875, standard deviation 1.310, 16 reporting), and 4) Spanish III (mean 2.333, standard deviation 1.155, 3 reporting).

COMMENTS

A section on the back of the questionnaire was left blank for comments. These comments are listed in the following paragraphs, and are grouped according to common interests.

The school opinions in general were grouped and were as follows: "Should be a better school for its size", "thought high school was comparable to other schools", "felt poorly prepared for college", "school does not have the ability to hold good teachers", "poor quality of teachers", "good teachers but didn't apply oneself".

Course content was a concern of the graduates and such comments were "little allowance made for superior ability students", "should have been more practical than theoretical", "need to be a separation between the slow and fast learner", "should have more question and answer periods", and "required courses should be made more interesting".

Many of the comments were slanted toward mathematics. The graduates stated, "school should offer introductory differential calculus, integral calculus, and analytical geometry", "require math all four years", "introduction to calculus important for future engineers", "more math and chemistry" and "math extremely useful, but physical education a waste of time".

Those comments dealing with English and languages were as follows: "English most useful in present occupation", "need for fluent vocabulary and proper speech techniques", "Spanish is useless", "need high school reading course", "other languages than Spanish needed".

Some suggestions about other courses were, "should have more

occupational studies", "need graduates to talk to students on the importance of their education", "offer courses in psychology and marriage and family with less emphasis on athletics and more on academics", "offer a course in economics", "history and government should be offered the senior year", and "should be more attention given to music and arts".

Those comments classified as general suggestions were, "add program for college bound", "more technical training needed", "should have a better intramural athletic program", and "too much emphasis given to sports".

Those suggestions related to industrial arts were, "students could have been pushed harder in industrial arts", "industrial arts should offer a variety of subjects", "could have used all the industrial arts phases listed on the questionnaire as an architect", "more fields of interest needed in industrial arts other than woodworking", "didn't have enough extra industrial arts courses", "would like to have taken those courses listed on the questionnaire", "more areas in industrial arts needed", "add welding and auto mechanics as optional courses", and "industrial arts program a must".

Two graduates questioned the validity of the study. Their comments were, "too long ago to properly evaluate courses", and "evaluation not accurate because knowledge was learned mostly on the job".

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APPENDIX

QUESTIONNAIRE

A study of the Male Graduates of Belmond High School
1956 - 1961

Copy No. _____

Please place a check mark by your answer to each of these questions. Answer every question and check only one answer. Your answers will be confidential and will be used for statistical purposes only.

1. YOUR PRESENT MARITAL STATUS
   - _____ Married
   - _____ Single

2. DO YOU OWN YOUR OWN HOME?
   - _____ Yes
   - _____ No (Live in Apartment)
   - _____ No (Live in rented Home)
   - _____ No (Live with parents)
   - _____ Does not apply
   - _____ Other_____

3. HOW MANY MILES AWAY FROM BELMOND DO YOU LIVE AT PRESENT?
   - _____ 0 - 5
   - _____ 5 - 10
   - _____ 10 - 20
   - _____ 20 - 40
   - _____ 40 - 100
   - _____ 100 - 200
   - _____ 200 or more
   - _____ Military
   - _____ In School

4. YOUR PRESENT OCCUPATION--
   - _____ Professioal
   - _____ Clerical
   - _____ Service occupations (House-keeper, Cook, Barber)
   - _____ Agriculture, Fishery, or Forestry
   - _____ Skilled occupations
   - _____ Semi - skilled
   - _____ Unskilled
   - _____ Student
   - _____ Armed forces
   - _____ Other_____

5. ARE YOU PLANNING TO MAKE YOUR PRESENT OCCUPATION YOUR LIFE'S WORK?
   - _____ Yes
   - _____ No
   - _____ No (Military)
   - _____ No (Student)
   - _____ Don't know

6. HOW DO YOU CLASSIFY YOUR PRESENT WORK?
   - _____ Employed full time (40 hr. wk.)
   - _____ Employed part time (less than 40 hrs.)
   - _____ Seasonal work only
   - _____ Other_____

7. WHO WAS INFLUENCIAL IN HELPING YOU SELECT THE TYPE OF WORK IN WHICH YOU ARE PRESENTLY ENGAGED?
   - _____ Friends
   - _____ Teachers
   - _____ Myself only
   - _____ Parents
   - _____ Relatives
   - _____ Other _____

8. ARE YOU WORKING AT PRESENT IN THE TYPE OF WORK CHOSEN IN HIGH SCHOOL?
   - _____ Yes
   - _____ No
   - _____ Don't know

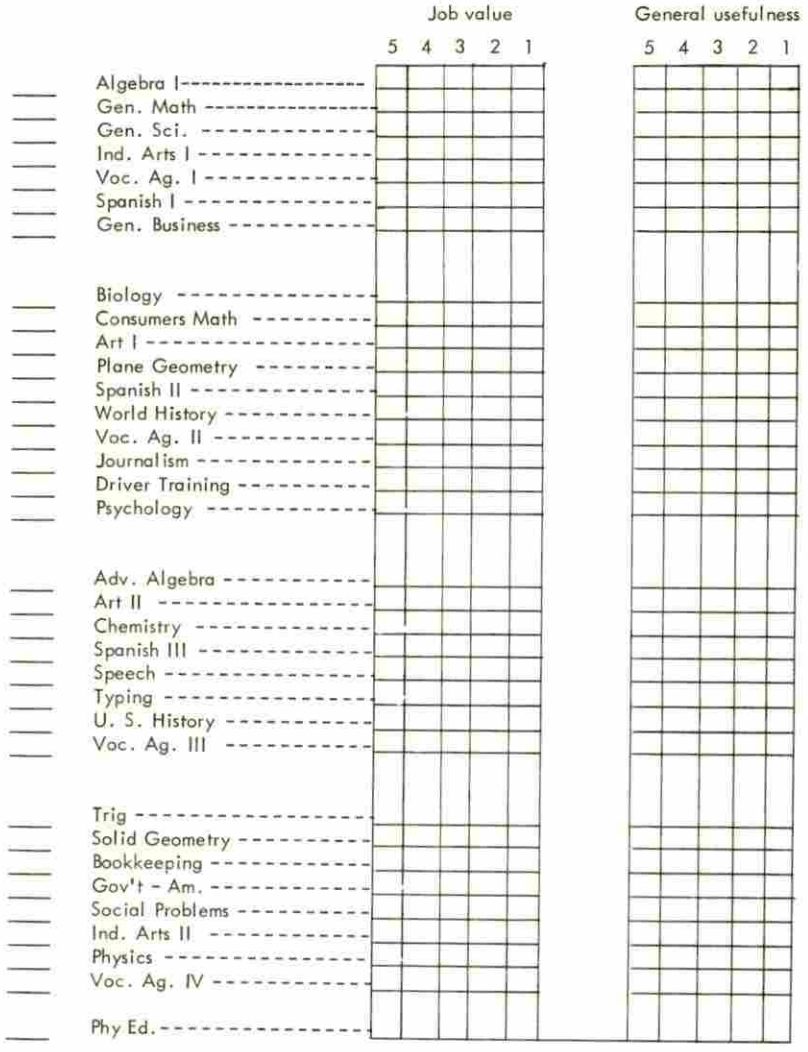
9. ARE YOU WORKING IN A JOB RELATED TO THE TYPE OF WORK CHOSEN IN HIGH SCHOOL?
   - _____ Yes
   - _____ No
   - _____ Don't know

10. HOW MANY JOBS HAVE YOU HELD SINCE GRADUATION FROM HIGH SCHOOL? (DO NOT INCLUDE MILITARY OR PART TIME JOBS HELD WHILE GOING TO SCHOOL)
    - _____ 1
    - _____ 2
    - _____ 3
    - _____ 4
    - _____ More than 4

24.

Below is a list of the courses that were offered at Belmond. A check mark at the left indicates that you have taken that course. Please rate only those courses checked. Rate each course as too its job usefulness and general usefulness. (English is omitted)

(Estremely useful - 5, Very useful - 4, Useful - 3, Of little use - 2, No use - 1)



What other comments or suggestions would you like to make concerning the Belmond High School program?

Belmond Community School District

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Don A. Faris, Supt.
PRINCIPALS
Ernest Doeringsfeld, Sr. High
Albert E. Olson, Jr. High
Owen Bateson, Elementary
Jerald Torgerson, Counselor
Pearl B. Ubben, Sec.
George Hinman, Treas.

BELMOND, IOWA 50421

April 25, 1967

Dear Graduates:

Do you remember the courses that you took at Belmond, Goodell, or Rowan? They are given to you on the back page of the questionaire.

A study is being made of the graduates of the Belmond Community School System, and we ask your help.

Please take about ten minutes of your time and fill out the questionaire. How well you fill out the questionaire will determine the success of this study.

Answer all the questions and return the questionaire in the self - addressed, stamped envelope.

Thank you.

Cordially yours,

Allen A. Suby
Industrial Arts Instructor

AAS/jaw

Enclosure